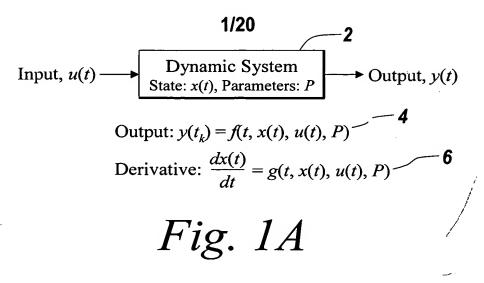
DEC 17 2003

App No.: 10/622,211
Inventor: Englehart, et al.
Docket No.: MWS-055

Title: Rate Grouping During Code...



Input,
$$u(t_k)$$

Dynamic System

State: $x(t_k)$, Parameters: P

Output, $y(t_k)$

Output: $y(t_k) = f(t, x(t_k), u(t_k), P)$

Update: $x(t_{k+1}) = g(t_k, x(t_k), u(t_k), P)$

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Fig. 1B

Input,
$$u(t)$$
 Dynamic System
Parameters: P Output, $y(t)$

Algebraic Eq : $f(u(t), y(t), P) = 0$

Fig. 1C

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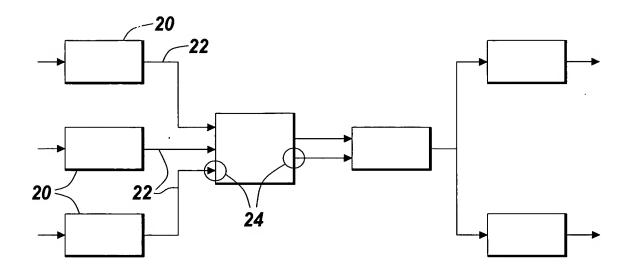


Fig. 2

$$u(t) = \frac{dx(t)}{dt} \xrightarrow{\text{State, } x(t)} y(t) = x(t)$$

$$x(t_0) = P_{IC}$$

Fig. 3

Title: Rate Grouping During Code...

3/20 40 Start with **Block-Diagram Model** Compile -44 46 Linearize Link 45 Generate yes no code for model sections? 48 Generate Code Continue with no simulation? yes Target ← ► External mode **50 52**-54 -Simulate / Execute Model through Simulation Loop

Fig. 4

Docket No.: MWS-055
Title: Rate Grouping During Code...

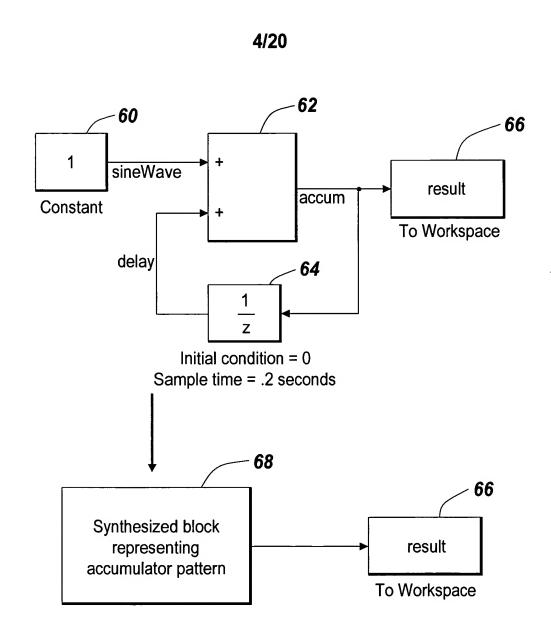
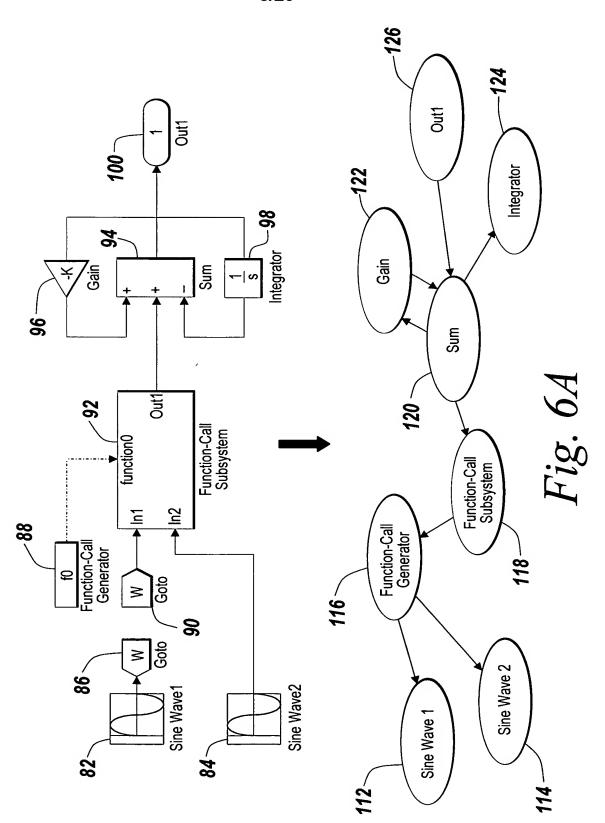


Fig. 5



Title: Rate Grouping During Code...

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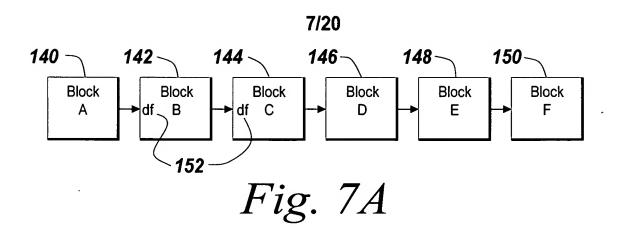
Sorted List:

- 0:0 Sine Wave 1
- 0:1 Sine Wave 2
- 0:2 Function-Call Generator
- 0:3 Function-Call Subsystem
- 0:4 Integrator
- 0:5 Gain (algebraic id 0#1)
- 0:6 Sum (algebraic variable for id 0#1)

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0:7 Out1

Fig. 6B



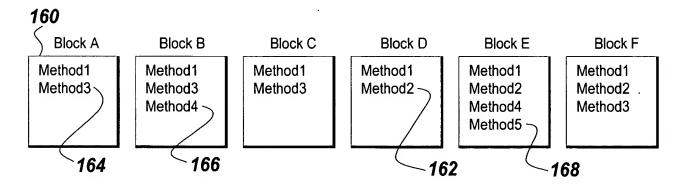


Fig. 7B

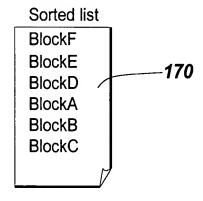
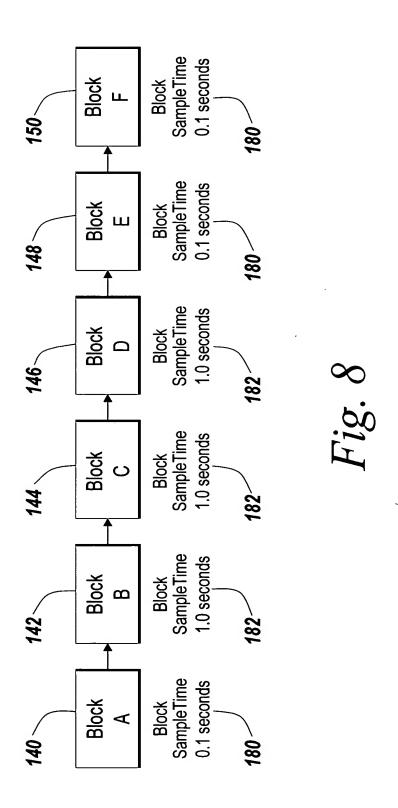
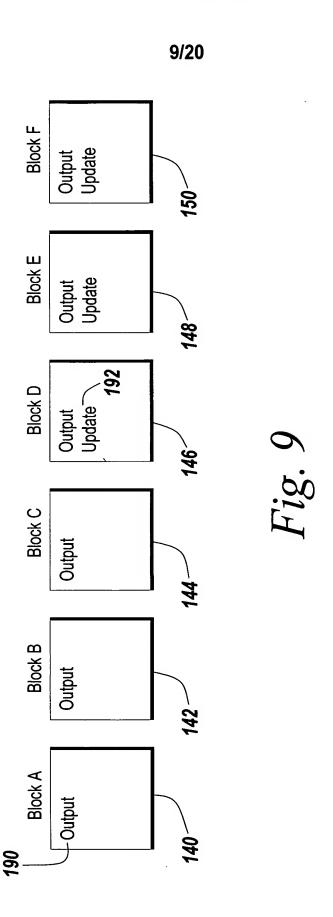


Fig. 7C

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Title: Rate Grouping During Code...

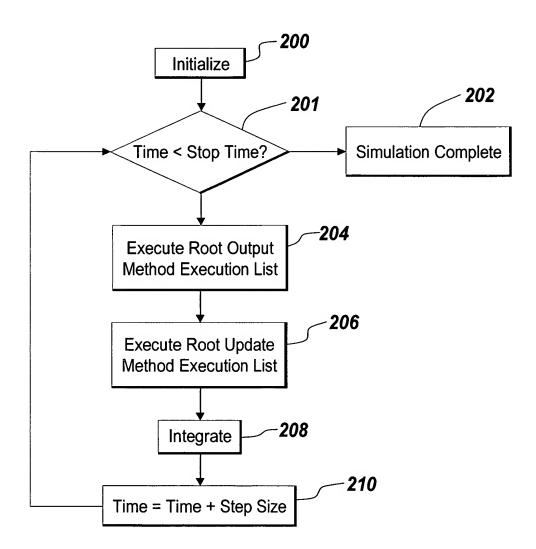
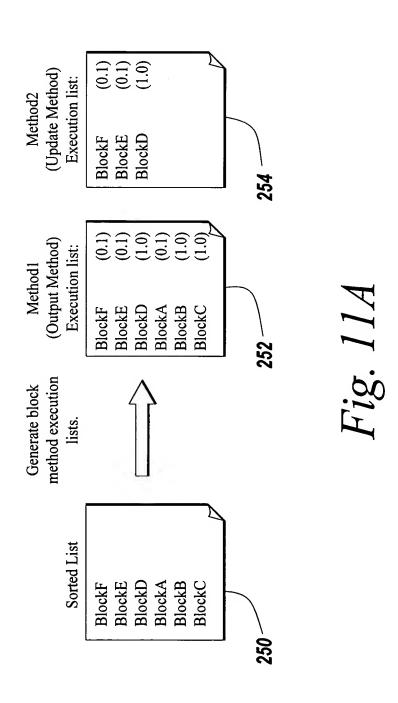
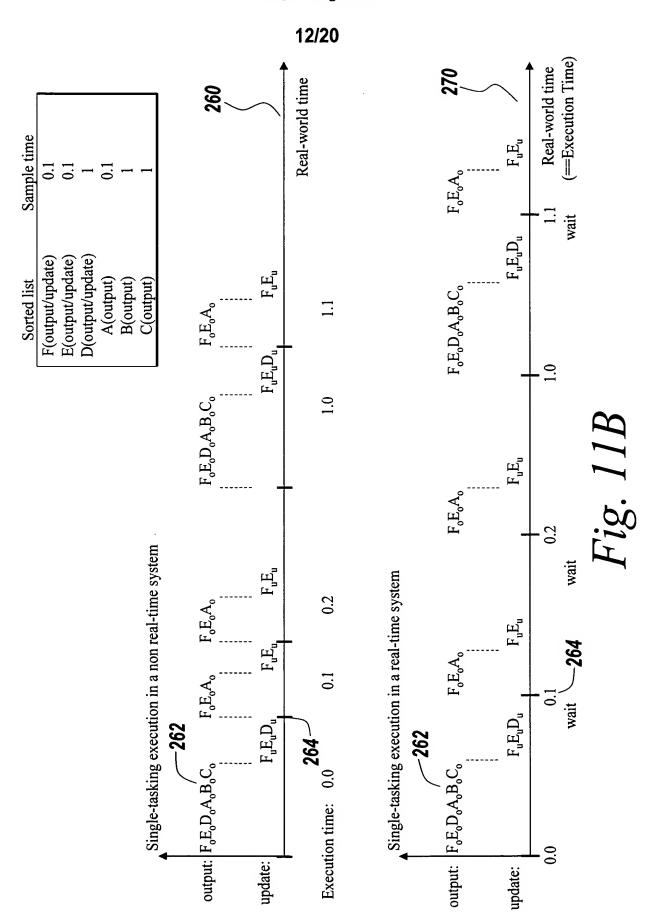


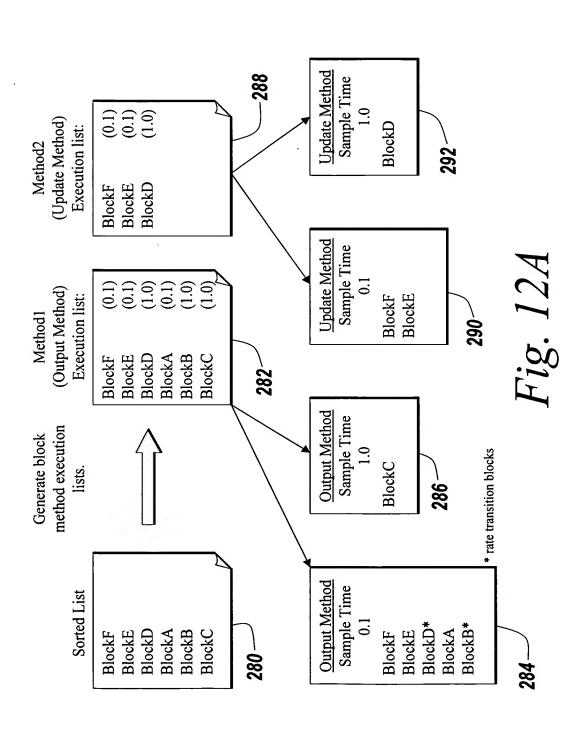
Fig. 10

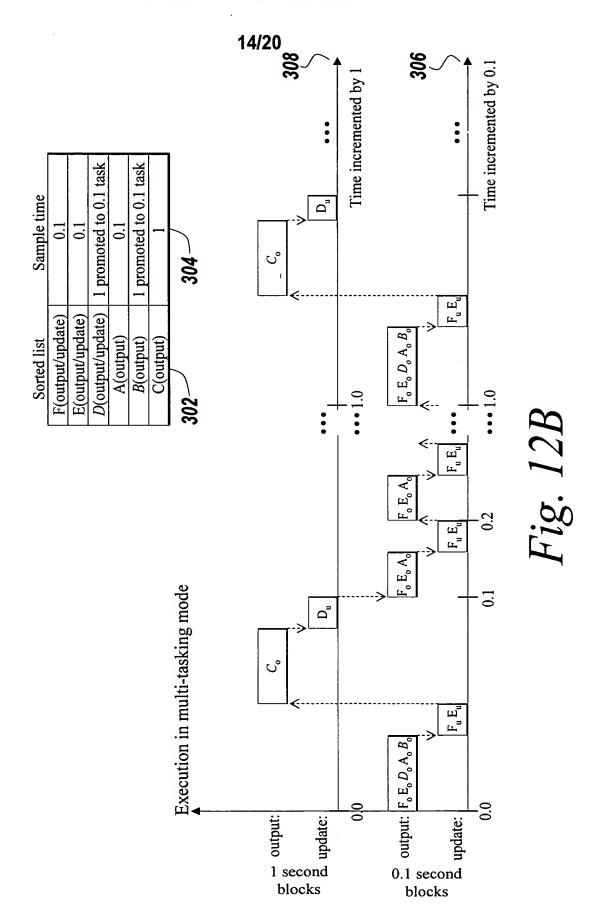
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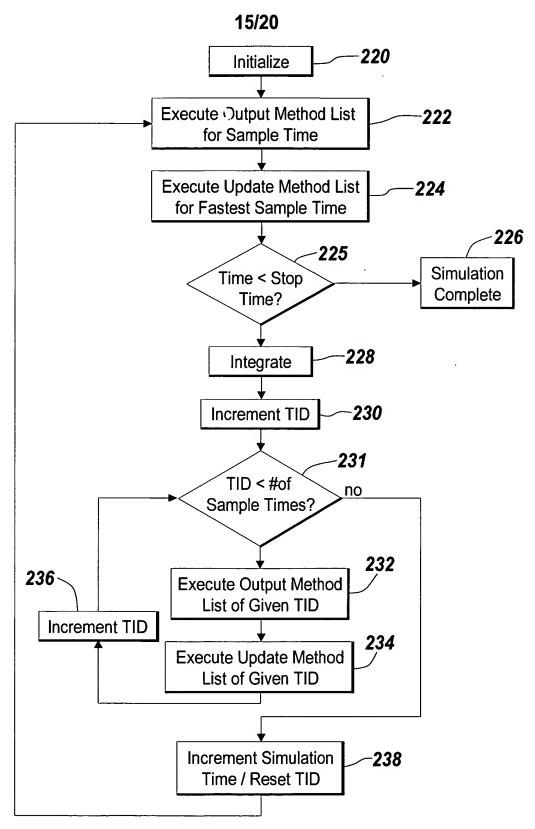


Fig. 13

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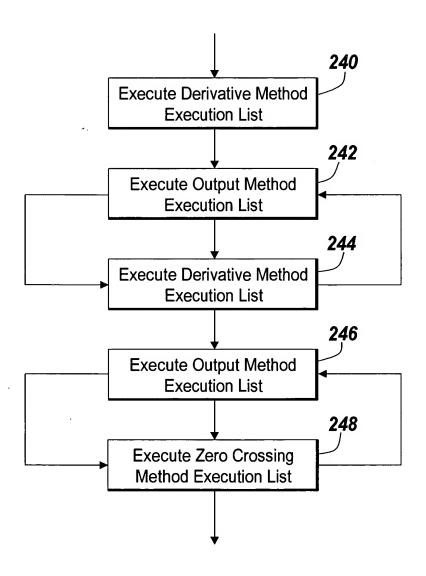
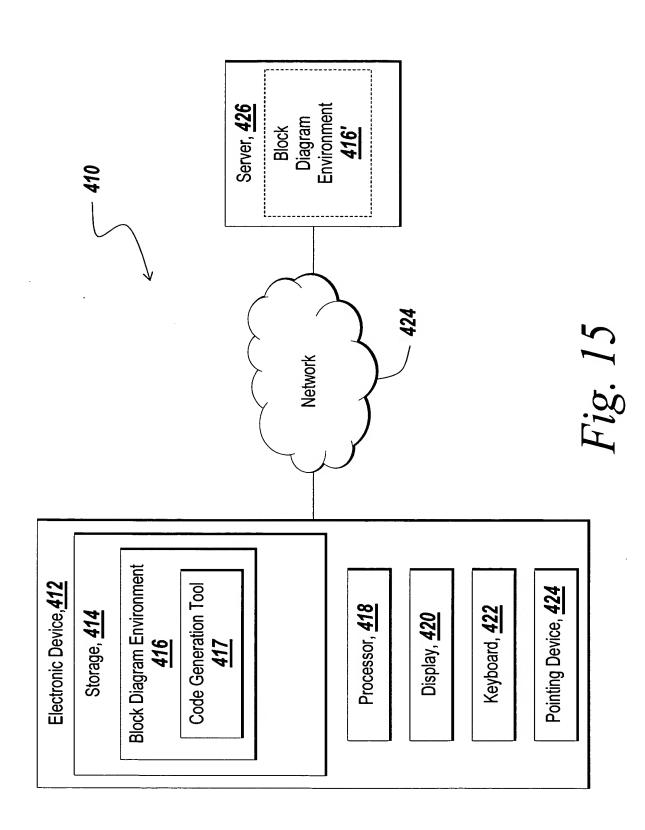
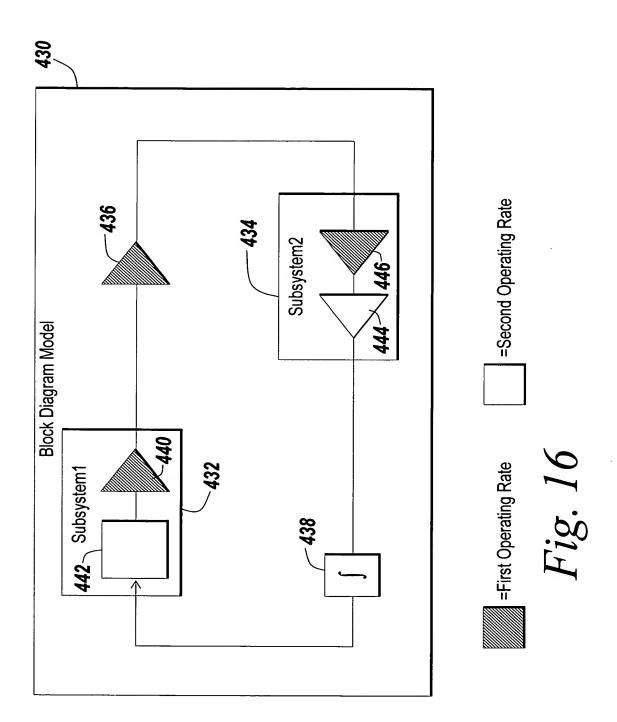


Fig. 14

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Title: Rate Grouping During Code...

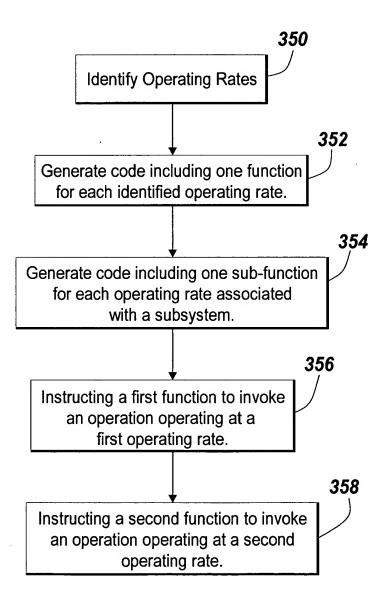
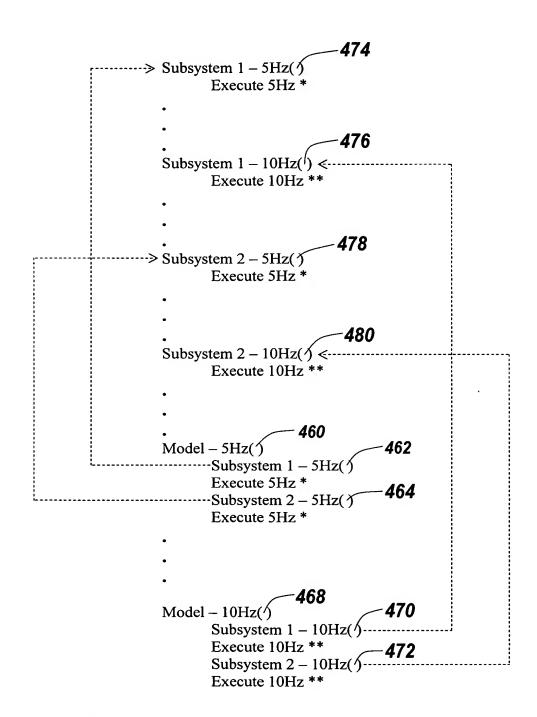


Fig. 17

Title: Rate Grouping During Code...



- * blocks or portions of blocks associated with 5Hz rate
- ** blocks or portions of blocks associated with 10Hz rate